IF-POA
#16

NOAA IFPOA 16

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Current Economic Analysis I-16

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

LIBRARY
FEB 14 1972

INDUSTRIAL FISHERY PRODUCTS

SITUATION AND OUTLOOK

Published Quarterly
by the
MARKET
RESEARCH AND
SERVICES DIVISION
Washington, D.C
February 1972

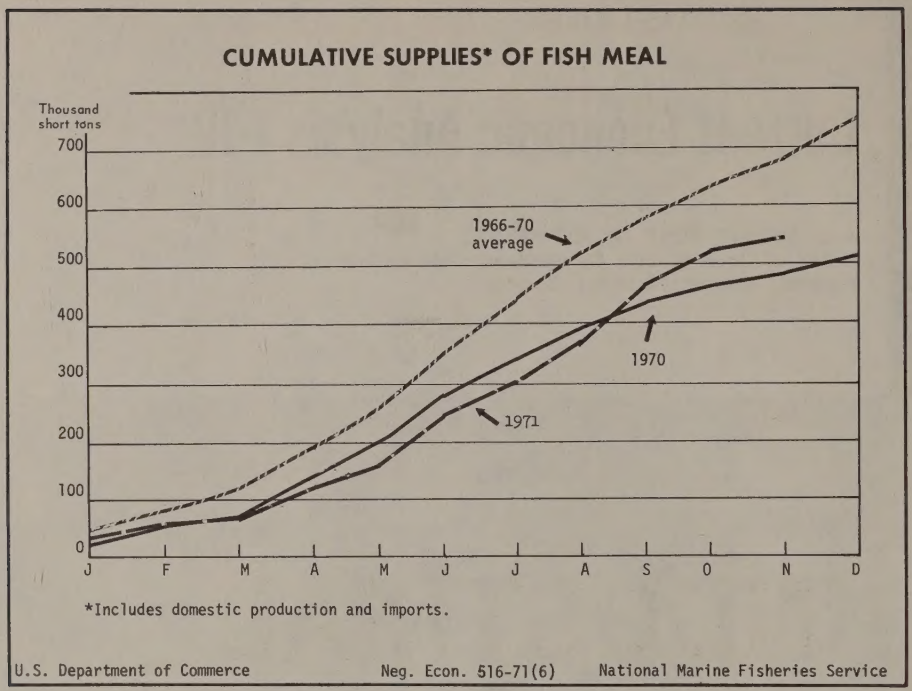

Figure 1

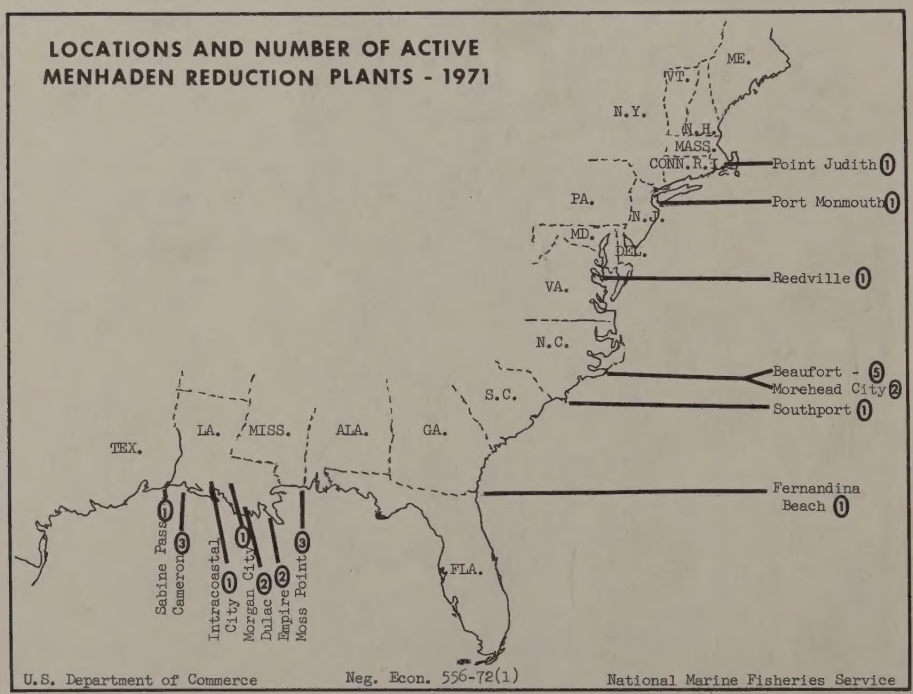

Figure 2

INDUSTRIAL FISHERY PRODUCTS

SITUATION AND OUTLOOK

Approved by the

National Marine Fisheries Service
Situation and Outlook Board

January 25, 1972

Principal contributor:
Jukka A. Kolhonen

Market Research and
Services Division

CONTENTS

	Page
Summary	3
Review and outlook	4
Fish meal	5
Fish solubles	19
Fish oil	21
List of tables	25
List of figures	26

SUMMARY

FISH MEAL

Supplies of fish meal in the United States increased during 1971. During January-October supplies totaled 521,200 tons, 1/ which represented a gain of 61,000 tons over the 1970 period. Domestic production was up about 12 percent mainly because of a significant increase in the production of menhaden meal. Imports of fish meal for January-October topped the previous year by 14 percent, despite exceptionally low shipments during the early months of the year.

Production of fish meal in the world's major exporting countries was lower in January-October 1971, than a year earlier. Peru continued to be the world's leading producer of fish meal despite its various restrictions on the anchovy reduction fishery and a consequent reduction in fish meal production.

Exports of FEO 2/ countries improved during the third quarter of

1/ In general, domestic figures are expressed in short tons and foreign figures in metric tons. Short tons are used in this report, unless otherwise specified. To convert metric tons to short tons, multiply by 1.1023.

2/ Fishmeal Exporters Organization: member countries are Angola, Chile, Iceland, Norway, Peru, and South Africa.

1971, but the January-October total was still 13 percent below 1970. Only 8 percent of the total FEO exports went to the United States in January-October 1971.

Stocks of fish meal held by FEO countries on November 1 were estimated to be over one million metric tons. Stocks were higher than a year before because of relatively low exports in comparison to production during the first 10 months of 1971.

The average New York prices for menhaden and Peruvian meals dropped sharply during 1971, although signs of recovery appeared during the late months of the year. The low of the year was in July, when the average price of menhaden meal was $150.10 per ton and the price of Peruvian meal averaged $154.50, as quoted in New York City. In both instances, prices were down 15 percent from the same months a year ago.

Increases in broiler numbers and lower prices, which favor increased use, indicate that supplies during the first quarter of 1972 will be greater than the supplies during the same quarter of 1971. The supplies in the first quarter 1972, however, will be slightly less than the 5-year average for the quarter. We estimate that about 10,000 tons of fish meal will be produced in January-March 1972. Production of menhaden meal is usually negligible during this period. Imports of fish meal during the first 3 months of 1972 are expected to be higher than a year before. We estimate that about 100,000 tons of fish meal could be imported to the United States in the first quarter of 1972. This estimate assumes that the possible dock strikes do not hamper imports.

FISH SOLUBLES

Total supplies of fish solubles in the United States in January-October 1971 were up 18 percent from 1970. The increase was due to higher menhaden landings. The average price of menhaden solubles in December was $42.50 per ton--the lowest price since April 1961.

We estimate that the production of fish solubles in January-March 1972 will be close to last year's production of 5,100 tons.

FISH OIL

The larger menhaden catch contributed to record high production of fish oil in the United States in January-October 1971. Menhaden oil production, which was mainly responsible for the record production, was 81 percent higher than the most recent 5-year average for the same period. Domestic use of fish oil was down 21 percent from 1970, but exports were up. Exports in January-October were 184.9 million pounds--highest since 1963.

Prices of menhaden oil declined from January to June, then increased temporarily during the third quarter, but declined again towards the end of the year. The average price for December was 8.5 cents per pound. The decline of menhaden oil prices was mainly due to expectations of continued high supplies of food oils in the world and high stocks of soybean oil in Europe. The world market situation, which was bearish still in mid-January has been firming recently. We expect relatively good prospects for U.S. exports of fish oil in January-March 1972.

FISH MEAL

REVIEW

Supply

Supplies of Fish Meal Up From 1970

Total supplies of fish meal in the United States in January-October 1971 were 521,200 tons--up 61,000 tons (12 percent) from 1970. Supplies were, however, substantially lower than the most recent 5-year average (634,800 tons). The increase over 1970 was due to high production of menhaden meal and an increase in imports during August-October, when supplies rose 82 percent above the same months a year before (table 1 and fig. 1).

Latest data show November supplies down about 16,400 tons, or 8 percent from the same month a year ago. The decline was due mainly to the decreased imports.

Production of Domestic Meal Up 12 Percent

The United States produced about 265,800 tons of fish meal in the first 10 months of 1971--compared to 237,000 tons in the same period a year before, or a 12 percent increase (table 1 and fig. 3). Menhaden meal plants produced nearly 81 percent of the total domestic meal--214,400 tons. This was the highest amount of menhaden meal produced in the January-October period since 1962. Production of menhaden meal in Gulf Coast plants was 165,300 tons--highest in our records of 20 years. The total January-October production of the plants in the Atlantic Coast area was 49,100 tons--about 5,000 tons less than in the comparable period in 1970 (table 3). In 1971, 25 menhaden reduction plants operated in eight States (fig. 2).

Table 1.--Supplies, production, and imports of fish meal in the United States, by month, 1969-71 1/

Month	Supplies			Production			Imports		
	1969	1970	1971 2/	1969	1970	1971 2/	1969	1970	1971 2/
	Thousand short tons								
January	30.0	24.0	37.9	2.8	3.9	4.6	27.2	20.1	33.3
February	31.4	26.2	19.0	3.9	4.8	3.2	27.6	21.4	15.8
March	49.9	25.4	17.2	4.7	5.9	3.9	45.2	19.5	13.3
April	72.7	62.9	44.1	14.7	8.0	12.3	58.0	54.9	31.8
May	76.9	61.2	40.0	31.8	26.5	29.4	45.1	34.7	10.5
June	90.0	80.1	87.2	35.4	46.5	57.0	53.6	33.5	30.2
July	77.1	61.0	58.3	40.2	50.7	52.5	36.8	10.2	5.8
August	51.7	49.7	65.3	33.5	39.4	50.7	18.3	10.3	14.7
September	45.2	39.6	94.0	35.9	28.7	31.2	9.3	10.9	62.9
October	38.8	30.1	56.2	19.1	22.4	19.1	19.7	7.8	37.1
November	19.3	18.3	16.4	12.7	12.3	11.9	6.6	6.0	4.5
December	20.4	30.0		9.5	7.7		11.0	22.3	
Total 3/	602.5	508.5		244.1	257.0		358.4	251.5	

1/ Excludes meal made from shellfish.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

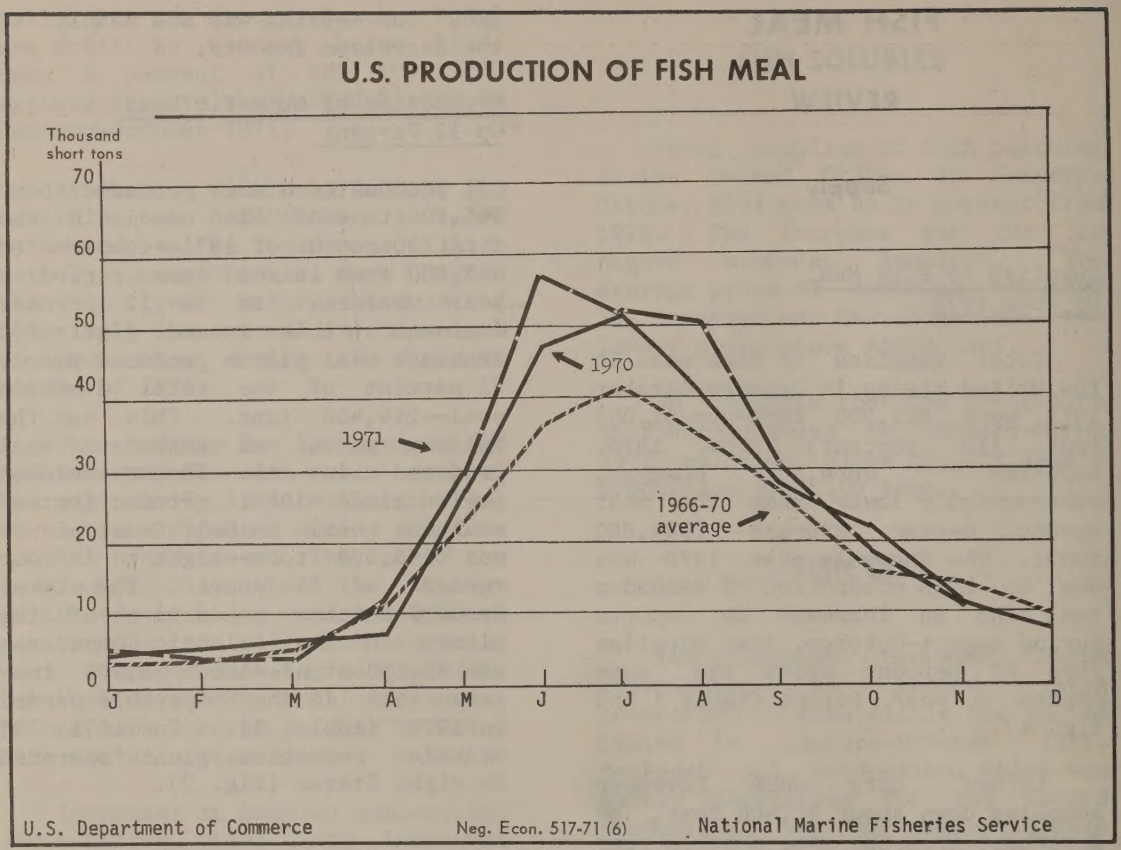

Figure 3

Table 2.--U.S. production of fish meal by raw material source, January-October, 1966-70 average, 1970, and 1971

Source	Production			Percent of total production		
	1966-70 average	1970	1971 1/	1966-70 average	1970	1971
	Thousand short tons			Percent		
Menhaden 2/	134.5	180.3	214.4	66.1	76.1	80.7
Tuna, mackerel, and anchovy	28.4	33.8	31.7	13.9	14.3	11.9
Unclassified	40.8	22.9	19.7	20.0	9.6	7.4
Total	203.7	237.0	265.8	100.0	100.0	100.0

1/ Preliminary.
2/ Includes a small quantity of fish meal made from other species.

Table 3.--Production of menhaden meal by area and by month, 1969-71 1/

Month	Atlantic Coast 1969	Atlantic Coast 1970 2/	Atlantic Coast 1971 2/	Gulf Coast 1969	Gulf Coast 1970 2/	Gulf Coast 1971 2/	Total 4/ 1969	Total 4/ 1970 2/	Total 4/ 1971 2/
	Thousand short tons								
January	3/	3/	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-
April	3/	0.7	3/	4.8	2.6	7.4	4.8	3.2	7.4
May	2.4	4.3	2.1	20.7	16.6	23.1	23.1	20.9	25.2
June	4.7	14.4	11.5	23.3	28.3	40.6	28.0	42.6	52.1
July	6.0	9.6	7.7	26.3	36.0	39.5	32.3	45.6	47.2
August	4.7	9.3	10.1	19.3	24.1	34.6	24.0	33.4	44.7
September	3.2	8.9	10.2	22.6	12.4	14.5	25.9	21.3	24.7
October	7.2	7.1	6.4	3.7	6.2	5.6	10.9	13.3	12.0
November	7.1	5.9		-	-		7.1	5.9	
December	3.5	2.4		-	-		3.5	2.4	
Total 4/	39.0	62.4		120.5	126.2		159.5	188.6	

1/ Includes a small amount of meal from other species.
2/ Preliminary.
3/ Data combined with Gulf Coast to avoid disclosing figures from individual companies.
4/ Figures may not add to total because of rounding.

Table 4.--Menhaden landings by area, January-October, 1966-70 average, 1970, and 1971

Area	1966-70 average	1970	1971 1/	Percent of total menhaden landings: 1966-70 average	1970	1971
	Million pounds			Percent		
Atlantic Coast	338.9	497.8	460.0	26.6	29.2	22.3
Gulf Coast	935.7	1,208.8	1,600.1	73.4	70.8	77.7
Total 2/	1,274 [illegible]	1,706.7	2,060.2	100.0	100.0	100.0

1/ Preliminary.
2/ Figures may not add to total because of rounding.

Menhaden Catch Improves

Menhaden landings in the United States for January-October 1971 were 2.1 billion pounds--up about 20 percent over the landings in the same period in 1970. Landings on the Gulf Coast, where the menhaden fishing season usually ends in October, were 1.6 billion pounds--the highest landings on record for this area. Atlantic Coast menhaden landings for January-October were 460 million pounds--down about 8 percent from the year before. The additional 84.1 million pounds of menhaden that were taken in the Atlantic Coast area during the rest of 1971 were somewhat higher than during the comparable months in 1970 (fig. 4).

January-October 1971 production of fish meal from anchovies, and tuna and mackerel scrap was 31,700 tons--slightly less than in 1970. Reduced landings in the California anchovy reduction fishery in the beginning of the 1971-72 season contributed to the drop. Because of the delay in the agreement on the exvessel price for anchovy, full scale fishing did not begin until October 23. Final agreement was reached December 20. The exvessel price, according to the agreement,

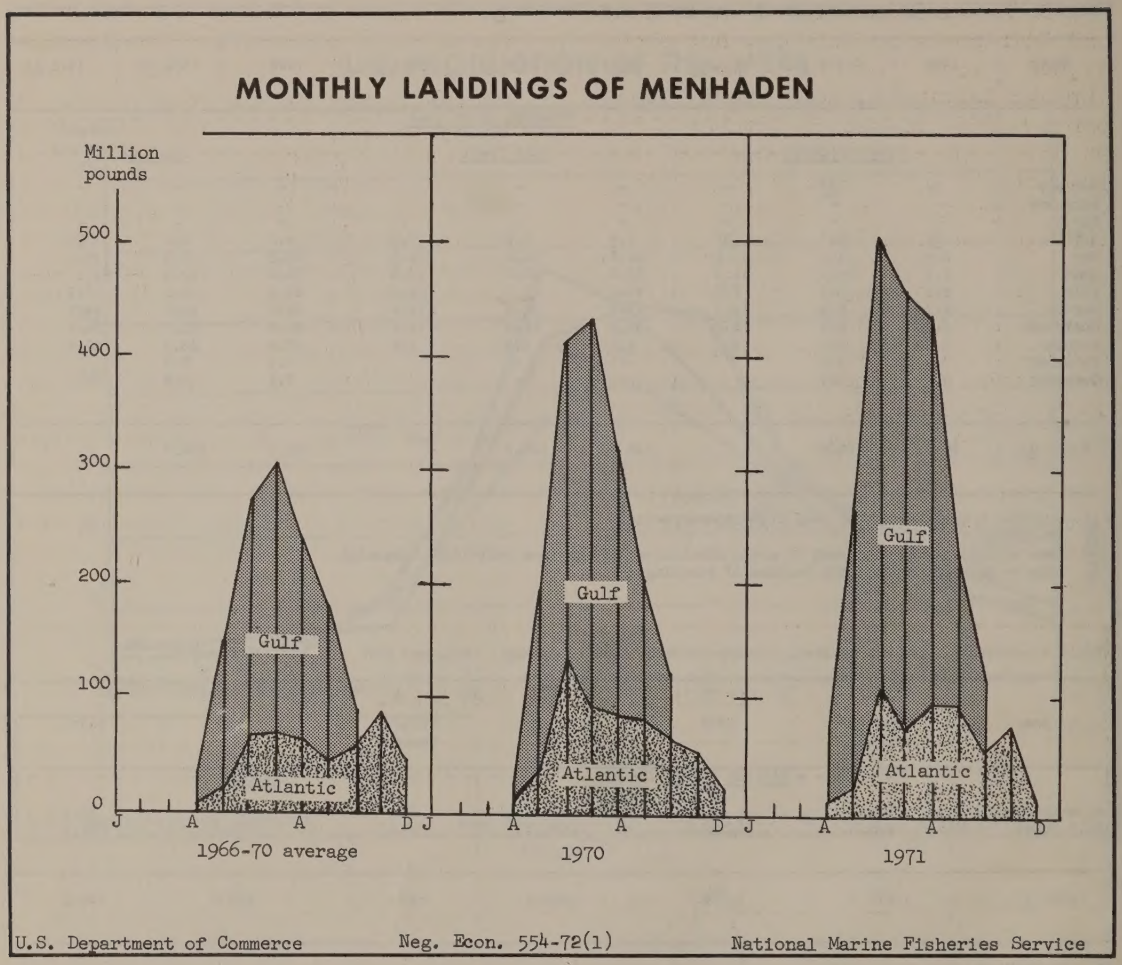

Figure 4

was based on current meal prices on a sliding scale of 50 cents per ton for each 5 cents change in the price of meal per unit of protein. The 1971-72 season opened on August 1 for the Northern Permit Area and on September 15 for the Southern Permit Area. Landings for the period ending on January 16, 1972, totaled 27,500 tons. The fishery will be closed during February, and the end of the season will be May 15, 1972. The season quota is 110,000 tons.

Preliminary figures for November indicate that U.S. production of fish meal was 11,900 tons--up 3 percent from November last year. Production for the first 11 months was 277,800 tons--compared with 248,800 tons in January-November 1970.

Imports of Fish Meal Up From 1970

A surge of fish meal imports during September, in anticipation of the dock strikes, resulted in the year's total through October 14 being 14 percent more than a year ago. During the 10 months, 255,400 tons entered (table 5 and fig. 5). This total, however, was still well below the 1966-70 average for the same period.

Dock strikes closed most East and Gulf ports in October, but about 11,600 tons of fish meal came through Baltimore, Md. West Coast ports were opened on October 6 for 90 days, under a Taft-Hartley Act injunction, and nearly 18,700 tons were imported in October, mainly through San Francisco, Calif.

Fish meal comes into the United States duty free and therefore, the surcharge, which affected imports of many fishery products between August 15 and December 20, had no influence on fish meal imports.

Strikes blocked imports during most of November on the Atlantic and Eastern Gulf Coasts, and the injunction came too late in the month to be effective. The November total was only 4,500 tons, lowest monthly imports of the year. No fish meal was imported from Peru or Norway in November.

Peru was the major supplier of fish meal to the United States in January-October 1971, and also increased its position in the United States market. Peru's share of the United States imports of meal climbed to 71 percent in 1971 compared with 61 percent in 1970. Imports from Peru were 180,200 tons--up one-third from a year before but only about two-thirds of the 1966-70 average for January-October period (table 5 and fig. 6).

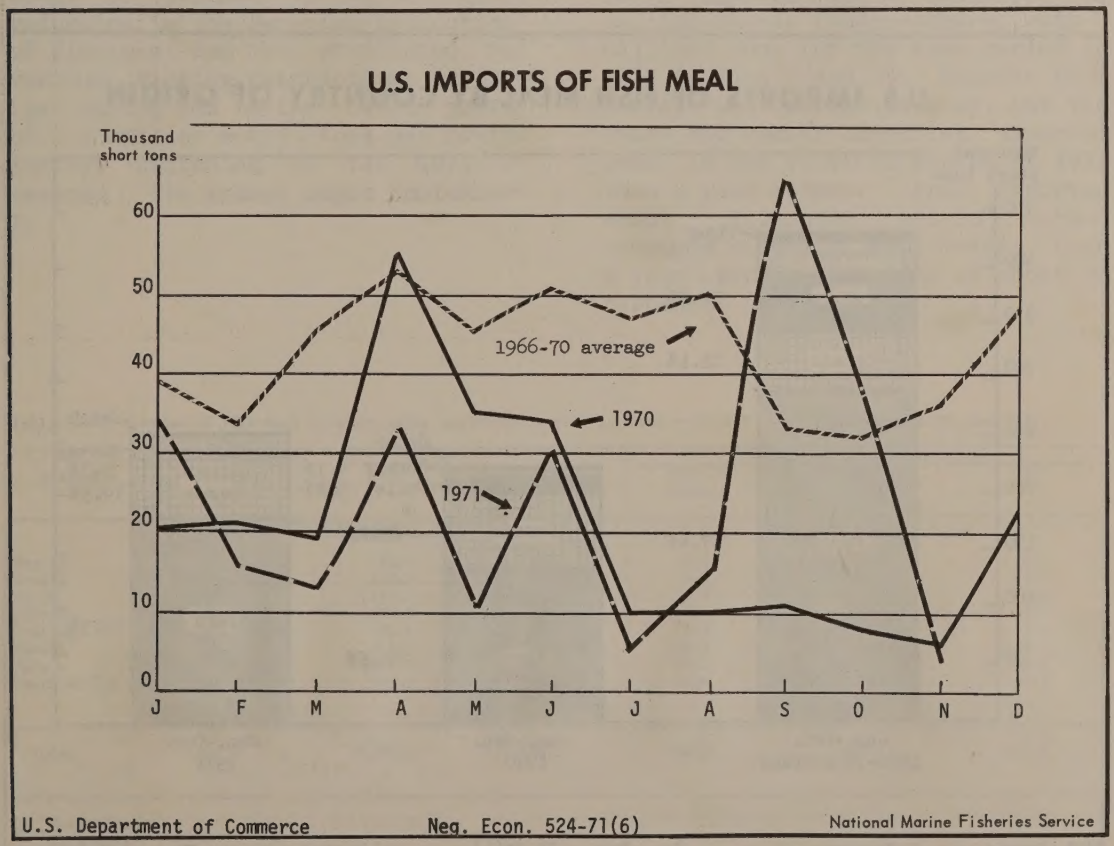

Figure 5

Norway shipped 23,800 tons of fish meal to the United States in August-October. This comprised all of the imports from Norway in January-October.

The United States imported 49,800 tons of fish meal from Canada in the first 10 months of 1971--about three-fourths of the previous year's imports.

Table 5.--U.S. imports of fish meal by country of origin, January-October, 1966-70 average, 1970, and 1971

Country of Origin	Quantity			Percent of total imports		
	1966-70 average	1970	1971 1/	1966-70 average	1970	1971
	Thousand short tons			Percent		
Canada	51.9	65.2	49.8	12.1	29.2	19.5
Chile	51.3	11.6	-	11.9	5.2	-
Norway	29.6	9.2	23.8	6.9	4.1	9.3
Peru	289.8	135.2	180.2	67.4	60.6	70.6
Other	7.1	2.0	1.5	1.7	0.9	0.6
Total 2/	429.8	223.2	255.4	100.0	100.0	100.0

1/ Preliminary.
2/ Figures may not add to total because of rounding.

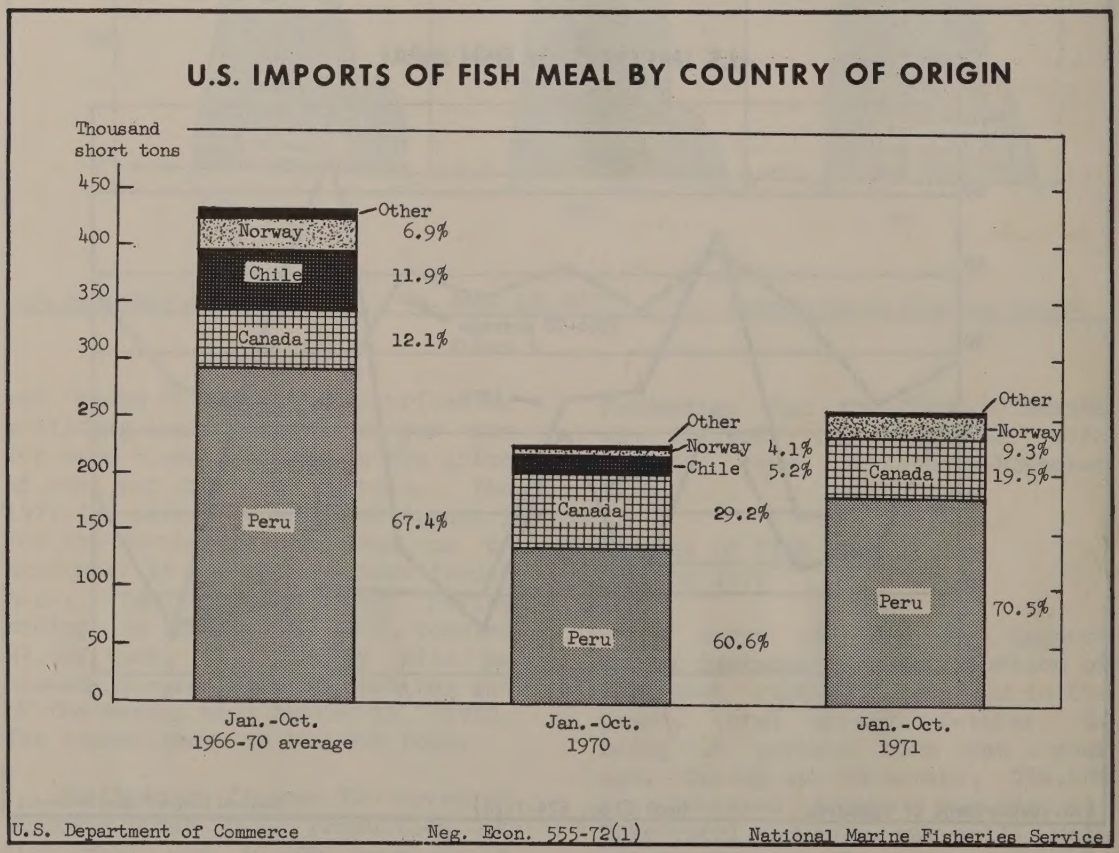

Figure 6

World Production of Fish Meal Down From Previous Years

The eight major fish meal exporting countries produced an estimated 2.6 million metric tons in January-October 1971--down about 13 percent from the same period a year earlier (table 6). In Norway and Chile, however, production was greater than a year ago.

Peru's production of fish meal in January-October was about 1,431,000 metric tons--down considerably from the record high of 1,871,500 metric tons in the 10 months of 1970. Peru accounted for 60 percent of the production of the member countries of the Fishmeal Exporters Organization--compared to about 69 percent in 1970. The reduction in the Peruvian production of fish meal can be attributed to various fishing restrictions during last spring and to the catch quota of 1.2 million metric tons per month for the beginning of the 1971/72 season. The season began September 1.

Norway, in contrast to Peru, achieved a substantial gain in fish meal production in 1971. Production was about 390,000 metric tons in January-October 1971--up 13 percent from the same period a year earlier. The high catch of capelin was the main cause of the increase; however, Norwegian plants have suffered from insufficient supplies of raw fish since April.

FEO Exports Down From Year Before

Although the prices of fish meal declined during January-July, they were still relatively high. This resulted in a 13-percent drop in the exports of the member countries of FEO during the first 10 months of 1971. Exports were an estimated 1.9 million metric tons--compared with 3 million tons for the same period in 1970 (tables 7 and 8). Exports from Norway and Chile were up, but the other FEO member countries exported less in the first 10 months of 1971 than a year before. Peru exported about 1,290,300 metric tons--compared with 1,611,300 metric tons a year before--a decline of about 20 percent.

Table 6.--Production of fish meal in eight major exporting countries, January-October, 1966-70 average, 1970, and 1971

Country	Thousand metric tons			Percent of total production		
	1966-70 average	1970	1971 1/	1966-70 average	1970	1971
Angola	47.9	50.4	2/ 36.0	1.8	1.7	1.4
Canada	94.3	102.8	2/ 94.0	3.5	3.4	3.6
Chile	141.6	118.1	188.8	5.3	3.9	7.3
Denmark	147.3	172.8	2/148.2	5.5	5.8	5.7
Iceland	85.5	66.1	2/ 63.5	3.2	2.2	2.4
Norway	371.9	346.2	2/389.0	13.9	11.5	14.9
Peru	1,452.2	1,871.5	1,431.0	54.2	62.3	54.9
South Africa	336.7	275.2	2/255.0	12.6	9.2	9.8
Total	2,677.4	3,003.1	2/2,605.5	100.0	100.0	100.0

1/ Preliminary.
2/ Estimated.

Sources: Fishmeal Exporters Organization, International Association of Fish Meal Manufacturers, and Monthly Review of Canadian Fisheries Statistics, Dominion Bureau of Statistics.

West Germany continued to be Peru's most important export market in January-October 1971. About 407,000 metric tons or 32 percent of Peru's exports went to West Germany. The total, however, was about 18 percent below the corresponding total for 1970. Peru increased its exports of fish meal to other Latin American countries and Asia. About 11 percent of the exports of Peruvian fish meal came to the United States during the first 10 months of 1971--compared to about 8 percent in 1970.

Table 7.--Total FEO 1/ exports of fish meal

Month	1966-70 average	1970	1971 2/
	Thousand metric tons		
January	217.1	212.9	150.5
February	233.8	263.2	144.4
March	244.2	281.9	159.2
April	235.5	257.0	195.5
May	245.5	274.6	185.0
June	227.7	201.9	173.6
July	233.8	250.8	3/194.4
August	183.3	167.7	3/180.2
September	166.9	134.1	3/293.0
October	177.1	113.5	3/199.0
November	202.7	162.5	
December	229.5	194.7	
Total 4/	2,597.0	2,515.0	

1/ Fishmeal Exporters Organization.
2/ Preliminary.
3/ Estimated.
4/ Figures may not add to total because of rounding.

Table 9.--FEO 1/ fish meal stocks held October 1, 1966-70 average, 1970, and 1971

Country	1966-70 average	1970	1971 2/
	Thousand metric tons		
Angola	4.1	1.0	3/4.9
Chile	28.7	23.3	45.0
Iceland	16.6	7.0	10.7
Norway	156.8	170.4	216.0
Peru	289.3	326.2	3/648.1
South Africa	77.7	24.8	100.0
Total 4/	573.2	552.7	1,024.7

1/ Fishmeal Exporters Organization.
2/ Preliminary.
3/ Estimated.
4/ Figures may not add to total because of rounding.

Table 8.--Exports of fish meal from FEO countries, January-October, 1966-70 average, 1970, and 1971

Country	1966-70 average	1970	1971 1/	Percent of total exports: 1966-70 average	1970	1971
	Thousand metric tons			Percent		
Angola	47.4	46.2	2/ 32.0	2.2	2.1	1.7
Chile	126.2	85.0	2/180.4	5.8	3.9	9.6
Iceland	84.6	59.6	2/ 53.0	3.9	2.8	2.8
Norway	276.2	190.5	249.3	12.8	8.8	13.3
Peru	1,408.7	1,611.3	1,290.3	65.1	74.7	68.9
South Africa	221.9	165.3	2/ 70.0	10.2	7.7	3.7
Total	2,165.0	2,158.2	2/1,875.0	100.0	100.0	100.0

1/ Preliminary.
2/ Estimated.

Source: Fishmeal Exporters Organization.

Table 10.--Stock-sales ratios 1/ in FEO countries, by month, 1970, and 1971 2/

Month	Angola		Chile		Iceland		Norway		Peru		South Africa		Total FEO	
	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971
	Ratio													
January	1.39	1.43	4.11	4.39	0.52	0.85	1.50	2.29	2.27	6.05	1.17	1.64	2.09	4.62
February	1.06	0.69	3.22	2.62	.94	2.20	1.65	4.06	2.13	5.52	0.82	1.19	1.85	3.95
March	3.25	1.29	2.56	2.00	.64	.97	1.91	4.87	2.04	7.46	.69	0.68	1.87	4.16
April	1.38	1.75	2.79	3.53	1.26	1.75	2.79	9.24	2.78	6.53	1.30	1.47	2.53	4.55
May	2.46	2.32	2.10	3.31	1.17	1.50	6.07	8.63	2.94	7.62	1.05	3.05	2.72	6.61
June	1.17	1.50	1.57	2.23	5.86	3.40	6.72	12.18	3.70	8.30	.88	2.60	3.23	6.85
July	2.40	1.09	2.79	4.61	1.95	2.95	5.67	8.83	1.88	5.78	1.18	5.42	2.15	5.93
August	2.14	3.08	4.85	2.94	1.43	2.59	6.00	6.15	1.86	6.09	1.41	5.35	2.38	6.97
September	1.42	3.71	5.07	2.55	2.46	3.26	8.31	6.19	2.52	2.87	1.15	3.91	3.04	5.51
October	1.77		1.52		1.22		5.64		7.40		.99		5.03	
November	1.83		2.02		3.45		4.93		5.03		.56		4.22	
December	1.04		2.81		1.79		3.70		4.29		1.97		3.90	
Average	1.78		2.93		1.89		4.57		3.24		1.10		2.92	

1/ Average of beginning and end of month stocks: exports plus local consumption.
2/ Preliminary.

Table 11.--Broiler chick placements in 22 States, and average broiler price at the farm, by month, 1969-71

Month	1969		1970		1971 1/	
	Chicks placed	Broiler price	Chicks placed	Broiler price	Chicks placed	Broiler price
	Million	Cents/lb.	Million	Cents/lb.	Million	Cents/lb.
January	201.2	14.1	288.5	14.8	280.5	13.0
February	211.8	14.9	240.7	14.3	224.7	13.7
March	282.9	15.1	251.4	14.8	236.2	13.7
April	234.0	14.7	257.4	13.7	244.7	13.6
May	295.9	15.5	318.6	13.9	305.0	14.3
June	235.3	15.9	252.5	13.3	245.1	14.9
July	220.4	17.5	230.6	13.6	287.6	15.9
August	265.4	16.5	280.5	13.2	229.5	14.3
September	204.5	15.7	198.6	13.4	215.3	14.2
October	204.8	14.8	242.9	12.8	253.1	13.0
November	270.6	14.4	217.2	12.9		
December	219.4	13.6	221.9	11.8		
Total placements 2/ and average price 3/	2,846.2	15.2	3,000.9	13.5		

1/ Preliminary.
2/ Figures may not add to total because of rounding.
3/ Weighted average.

Sources; Commercial Broilers: Annual Production and Weekly Placements, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

Demand

Broiler Placements--Nearly Same as Year Before

The major use of fish meal in the United States is in mixed feed for broiler chicks. Therefore, the number of broiler chicks placed on feed is a chief factor affecting the demand for fish meal.

During the first 10 months of 1971, about 2.5 billion broiler chicks were placed on feed in the 22 major broiler-producing States

(table 11). These placements were slightly less than a year ago. October to December placements were, however, nearly 3 percent over the same months a year before indicating an increase in potential demand for fish meal.

In July, prices for broilers at the farm reached a peak for the year, 15.9 cents per pound, but the trend of prices has been slightly downward since then, averaging 13 cents per pound in October. Since May, however, the monthly average prices have been above corresponding months in 1970, which explains the increase in broiler placements in the latter part of 1971.

Prices of Soybean Meal Below a Year Ago

Soybean meal prices in the first 11 months of 1971 averaged below the previous year (table 12). Compared with the same period in the year before, the average price of 50 percent soybean meal at Decatur, Ill., was $11.50 per ton lower in January 1971, $2.50 lower in July and $3.30 lower in November.

The ratio between the price of fish meal and the price of soybean meal decreased from 2.14:1 in January to 1.72:1 in July indicating an improvement in the competitive position for fish meal. Although increasing since July, the ratio between the price of fish meal and the price of soybean meal has been relatively more favorable for the use of fish meal this year than a year before.

Prices

Fish Meal Prices in 1971-- Considerably Below a Year Before

The New York average price for menhaden meal declined from an average of $186.50 per ton in January to $150.10 per ton in July. Prices then increased towards the end of the year. The December average was $162.90 per ton (table 14). Average monthly prices of Peruvian fish meal also strengthened from the July low of $154.50 per

Table 12.--Average monthly price of soybean meal 1/ at Decatur, Ill., 1969-71

Month	1969	1970	1971
	Dollars per short ton		
January	79.50	97.60	86.10
February	78.40	95.60	82.40
March	80.10	79.60	82.00
April	81.30	83.10	80.50
May	84.90	78.90	84.80
June	88.20	82.70	87.60
July	86.20	92.50	90.00
August	84.10	92.50	84.20
September	82.70	88.20	80.00
October	82.10	83.80	80.80
November	76.90	82.50	79.20
December	90.40	88.20	88.50
Average 2/	82.90	87.10	83.80

1/ 50 percent protein, bulk.
2/ Simple average.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service, Grain Division.

Table 13.--Ratio of Peruvian fish meal price 1/ to soybean meal price 2/, by month, 1969-71

Month	1969	1970	1971
	Price ratio		
January	1.75	2.02	2.14
February	1.80	1.92	2.17
March	1.75	2.42	2.16
April	1.80	2.38	2.20
May	1.90	2.56	2.00
June	1.90	2.37	1.79
July	2.01	2.01	1.72
August	2.05	1.94	1.90
September	2.08	2.09	1.99
October	2.36	2.26	1.95
November	2.63	2.28	1.99
December	2.26	2.11	1.79
Average	1.89	2.24	1.98

1/ F.o.b. East Coast ports, 65 percent protein, as quoted at New York City.
2/ Wholesale at Decatur, Ill., 50 percent protein, bulk.

ton, f.o.b. East Coast ports. The average price in December was $158.40 per ton (table 15). These price trends are attributed to increased firmness in the markets for high protein feeds.

Average monthly prices of tuna, mackerel, and anchovy meals, as quoted by brokers in Los Angeles, also indicate improvement in demand during the last quarter of 1971. Average prices for domestic anchovy meal (65 percent) were $156 in October and $159 per ton in December.

Table 14.--Average monthly price of menhaden meal 1/ f.o.b. East Coast and Gulf points, 1969-71

Month	1969	1970 2/	1971 2/
	Dollars per short ton		
January	149.25	195.90	4/186.50
February	153.00	196.50	4/184.20
March	153.00	189.90	180.00
April	3/154.00	197.50	174.10
May	174.00	197.50	169.20
June	172.60	193.80	153.60
July	171.90	179.00	150.10
August	168.90	172.90	159.20
September	171.60	177.80	160.30
October	189.30	187.50	160.30
November	200.10	189.10	161.80
December	199.25	187.50	162.90
Average 5/	174.30	184.80	

1/ 60 percent protein, bagged, as quoted by brokers at New York City.
2/ Bulk.
3/ Nominal price as presented in the Oil, Paint, and Drug Reporter.
4/ Mainly meal at Gulf points.
5/ Average weighted by monthly production of menhaden meal.

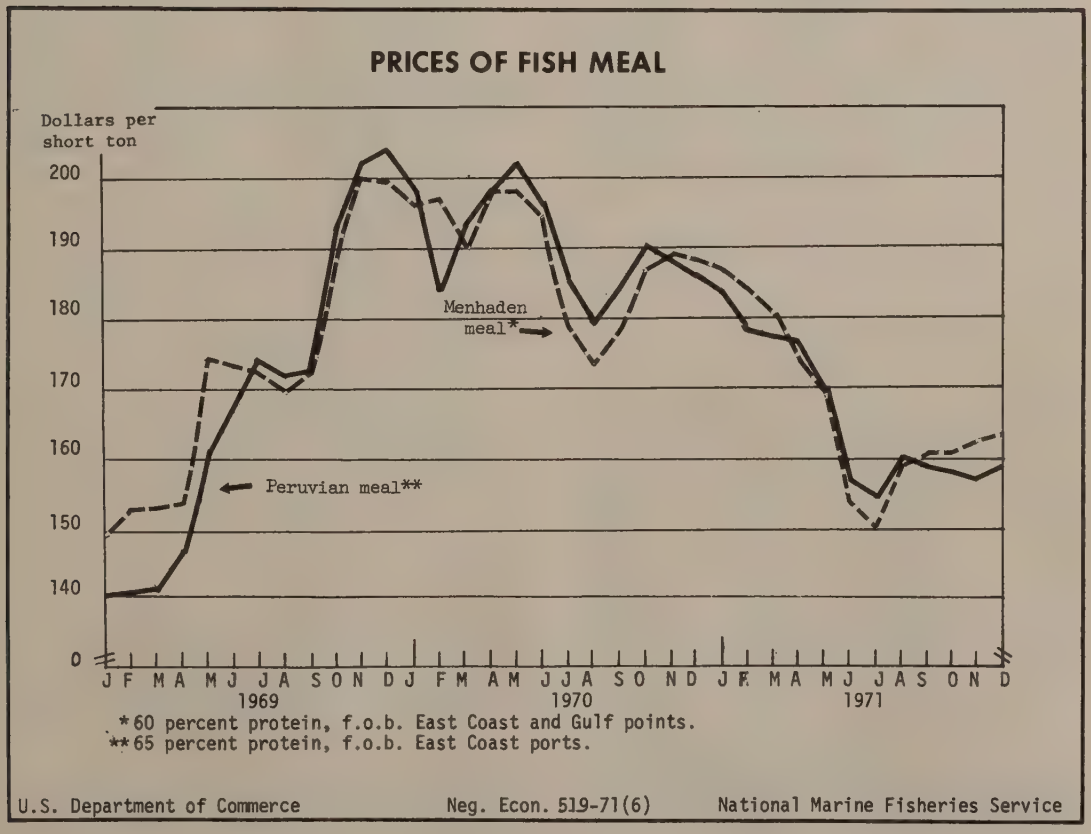
PRICES OF FISH MEAL
Dollars per short ton
200
190
180
170
160
150
140
0
Menhaden meal*
Peruvian meal**
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1969
1970
1971
*60 percent protein, f.o.b. East Coast and Gulf points.
**65 percent protein, f.o.b. East Coast ports.
U.S. Department of Commerce
Neg. Econ. 519-71(6)
National Marine Fisheries Service

Figure 7

Table 15.--Average monthly price of Peruvian fish meal 1/ f.o.b. East Coast ports, 1969-71

Month	1969 2/	1970 3/	1971 4/
	Dollars per short ton		
January	139.50	197.50	184.10
February	141.00	183.50	178.90
March	140.50	192.70	177.30
April	146.80	198.00	177.00
May	161.00	202.10	169.40
June	168.00	195.80	156.80
July	173.50	185.90	154.50
August	172.10	179.10	160.10
September	172.00	184.00	159.00
October	193.40	189.80	157.80
November	202.40	187.80	157.50
December	204.00	186.40	158.40
Average 5/	157.10	194.70	

1/ 65 percent protein, f.o.b. East Coast ports.
2/ Bagged.
3/ January through March bagged, April bulk, May through July bulk and bagged, August through December bulk.
4/ Bulk.
5/ Average weighted by monthly imports of Peruvian fish meal.

Table 16.--Average monthly price of tuna and mackerel meal 1/ at Los Angeles, 1969-71

Month	1969	1970	1971 2/
	Dollars per short ton		
January	132.60	172.50	150.00
February	135.00	172.50	150.00
March	133.80	177.00	150.00
April	127.80	178.50	150.00
May	138.60	180.00	147.60
June	145.80	180.00	144.00
July	147.00	180.00	138.00
August	147.00	168.00	135.00
September	150.00	165.00	135.00
October	168.00	162.00	135.00
November	177.00	161.00	135.00
December	172.20	159.00	
Average 3/	146.15	170.15	

1/ 60 percent protein, bagged, as quoted by brokers at Los Angeles.
2/ Bulk.
3/ Average weighted by monthly production.

Table 17.--Prices of Peruvian fish meal in the United States and in Europe, by week, July-December, 1971

Beginning date of the week	United States f.o.b. East Coast and Gulf ports 1/	Hamburg wholesale price 2/
	Dollars per short ton	
July 5	153.0	158.7
" 12	154.5	159.8
" 19	153.0	160.3
" 26	157.5	160.5
August 2	160.5	161.4
" 9	161.5	158.1
" 16	160.5	158.4
" 23	159.5	159.1
" 30	158.5	157.0
September 6	159.0	156.8
" 13	159.0	157.9
" 20	159.0	159.0
" 27	159.0	160.0
October 4	158.8	167.0
" 11	158.5	166.2
" 18	156.3	166.6
" 25	157.5	165.8
November 1	157.0	160.3
" 8	157.0	161.2
" 15	157.8	164.2
" 22	157.5	162.6
" 29	158.0	164.0
December 6	158.0	162.5
" 13	158.0	163.1
" 20	159.0	-
" 27	159.0	-

1/ As quoted by brokers in New York City.
2/ Converted from DM per 100 kilograms; concurrent rate of exchange was used.

OUTLOOK

Supply

The amount of fish meal available in the United States during the first quarter of 1972 will be greater than the supplies during the same quarter of 1971, mainly because of higher imports. The supplies in the first quarter of 1972, however, will be less than the most recent 5-year average for this period. The National Marine Fisheries Service does not collect information on stocks of fish meal held in the United States, but industry sources indicate that supplies of fish meal were low during the first part of January this year. Production of menhaden meal is usually negligible in the first 3 months of the year, and production in 1971 is reportedly sold out. Production of anchovy meal in California during the first quarter 1971 was about 6,700 tons. If weather is favorable for fishing, production of anchovy meal in the first quarter of 1972 will probably be above the year before. The California anchovy fishery will be closed for February as it was last year. Landings in March a year ago were, however, exceptionally low. Production of tuna and mackerel meal in the first quarter of 1972 is expected to be close to last year's production of 2,200 tons.

Most of the United States imports of fish meal come from Peru, which provided about 81 percent of fish meal imports in the first quarter of 1971. Several factors point to higher imports of fish meal during the first quarter of 1972:

1. Domestic supplies will be low during the first quarter of 1972.

2. Oil World Weekly 3/ estimates that Peruvian stocks of fish meal on January 1, 1972, were 795,000 metric tons--compared to about 654,000 metric tons a year ago and 307,000 metric tons 2 years ago.

3. Prices of fish meal compared to prices of other feed ingredients will likely continue to favor the use of fish meal in broiler rations.

There are, however, other factors which may impair imports of fish meal:

1. The 80-day restraining period in the East Coast and Gulf ports ends in mid-February, and a resumption of the strike is possible.

2. The capacity of some import terminals to pasteurize fish meal is relatively low. The recently rushed-in pre-strike cargoes have caused delivery delays and confusion in operation. All fish meal imported through these import terminals is treated.

3. Peru has a shortage of pellet-form fish meal; this is a favored form of imported fish meal in the United States.

If the dock strikes at the East and Gulf Coasts ports do not materialize, we expect about 80,000 short tons of Peruvian meal to be imported into the United States during the first quarter of 1972.

3/ Oil World Weekly, No. 3/XV, January 21, 1972, p. S-12. Publishers: ISTA Mielke & Co., Hamburg, West Germany.

This amount is about 58 percent more than a year ago. We estimate that the supplies of fish meal into the United States from other countries will be about 20,000 tons. Total supplies of fish meal in the United States in January-March 1972, including domestic production and imports, would then be about 110,000 tons.

As indicated earlier, prices of Peruvian fish meal in the United States reached the low of 1971 in July and recovered towards the end of the year. Whether the prices continue to recover further during the first quarter of 1972 depends not only on the market in the United States, but primarily how successfully EPCHAP, the Peruvian fish meal marketing organization, controls production and expands sales. The strictly enforced monthly catch quota of 1.2 million metric tons for September-December 1971 was rather successful in limiting production. Peruvian exports of fish meal increased sharply in September, and Peruvian authorities indicated that exports for the rest of 1971 would be close to production. Because of the large carryover from the previous season, stocks were still high at the end of the year. Stocks are expected to decline, however, because the anchovy fishery in Peru is closed in January and February.

The revaluation of various currencies in terms of the Peruvian sol, which is devalued along with the United States dollar, tends to favor expanded Peruvian exports to West Germany and other European markets. The currency realignment results in lower prices to European fish meal buyers or higher returns for EPCHAP. Excluding the effect of market factors, the currency realignment tends to increase prices of Peruvian fish meal in the United States. However, developments on the demand side, discussed below, are expected to have a major influence on prices of fish meal during the first quarter of 1972.

Demand

As indicated in the review section, demand for broilers in the United States was recovering at the end of 1971. This development is expected to continue in 1972 and increase the potential demand for fish meal. We estimate that about 775 million broilers will be placed on feed in the first quarter of 1972--5 percent more than the year before.

Demand for meal in European markets has been increasing. This may be partially attributable to the uncertainty about the strike prospects which could limit the availability of United States soybean meal in Europe. The increase in production of poultry feed in West Germany and the increase in the number of animal units generally in Europe suggest that demand will increase. Demand for high protein feed is expected to increase also in other parts of the world. Availability of soybean meal in the world market is likely to be slightly less than a year ago, because production is expected to be down in 1972 and soybean meal stocks are currently low. Because fish meal is a major competitor for soybean meal in the protein feed market, demand for fish meal is expected to increase in the world market with a probability of slightly increased prices. If the ratio between the price of Peruvian fish meal and the price of soybean meal in the United States would remain at the mid-January level of 1.85:1, we estimate that more than 100,000 tons of fish meal would be used in the United States during the first quarter of 1972.

FISH SOLUBLES

REVIEW

Supply

Supplies of Fish Solubles Up 18 Percent

Total U.S. supplies of fish solubles in January-October were 104,200 tons--compared to 88,500 tons a year ago (table 18). Domestic production accounted for practically all of the supplies. About 86,200 tons of solubles were made from menhaden--nearly 26 percent more than in the first 10 months of 1970.

About 6,700 tons of solubles were produced in November 1971; 4,800 of these were from menhaden.

Demand

Prices Continued Declining

Prices of menhaden solubles, as quoted by brokers in New York City, declined during the year from $51.25 per ton in January to $42.50 per ton in December--the lowest price since April 1961 (table 19 and fig. 8). The price drop was caused by the lower prices of menhaden meal, which have reduced the price margins between these two feed ingredients. Consequently, solubles became a less attractive buy and prices declined in order to increase sales.

OUTLOOK

Supplies of fish solubles are usually very low during the first 3 months of the year. U.S. production of fish solubles in the first quarter has varied between 2,700 and 6,800 tons since 1960. Because very little or no menhaden is landed during this period, the production of fish solubles depends on landings of anchovy, tuna, and mackerel. Production for the first quarter of 1972 is expected to be close to last year's January-March production of 5,100 tons.

If prices of solubles remain at the current low level during the first quarter, an increase in the use is expected, as feed mixers may include more solubles in their rations.

Table 18.--Total fish solubles available in the United States: production plus imports, by month, 1969-71

Month	1969	1970	1971 1/
	Thousand short tons		
January	0.6	1.3	1.3
February	1.4	2.1	1.3
March	1.6	2.5	1.6
April	5.0	3.5	5.3
May	11.3	9.8	13.2
June	12.6	15.7	22.7
July	11.7	18.8	19.5
August	10.5	14.0	19.5
September	12.8	11.3	11.6
October	6.5	9.8	8.3
November	4.0	4.0	6.7
December	3.9	2.9	
Total 2/	81.9	95.4	

1/ Preliminary.
2/ Figures may not add to total because of rounding.

Table 19.--Average monthly price of menhaden solubles 1/ f.o.b. East Coast plants, 1969-71

Month	1969	1970	1971
	Dollars per short ton		
January	51.25	$1.25	51.25
February	51.25	50.90	51.25
March	49.40	51.75	51.25
April	47.75	52.80	50.60
May	47.50	2/54.70	48.90
June	49.75	2/54.30	49.00
July	51.25	51.90	48.10
August	49.40	50.45	47.15
September	48.75	48.70	45.05
October	50.60	50.60	43.10
November	51.25	50.65	42.70
December	52.50	49.70	42.50
Average 3/	49.60	51.90	

1/ In tank cars; prices quoted by brokers at New York City.
2/ F.o.b. Gulf Coast plants only.
3/ Weighted average.

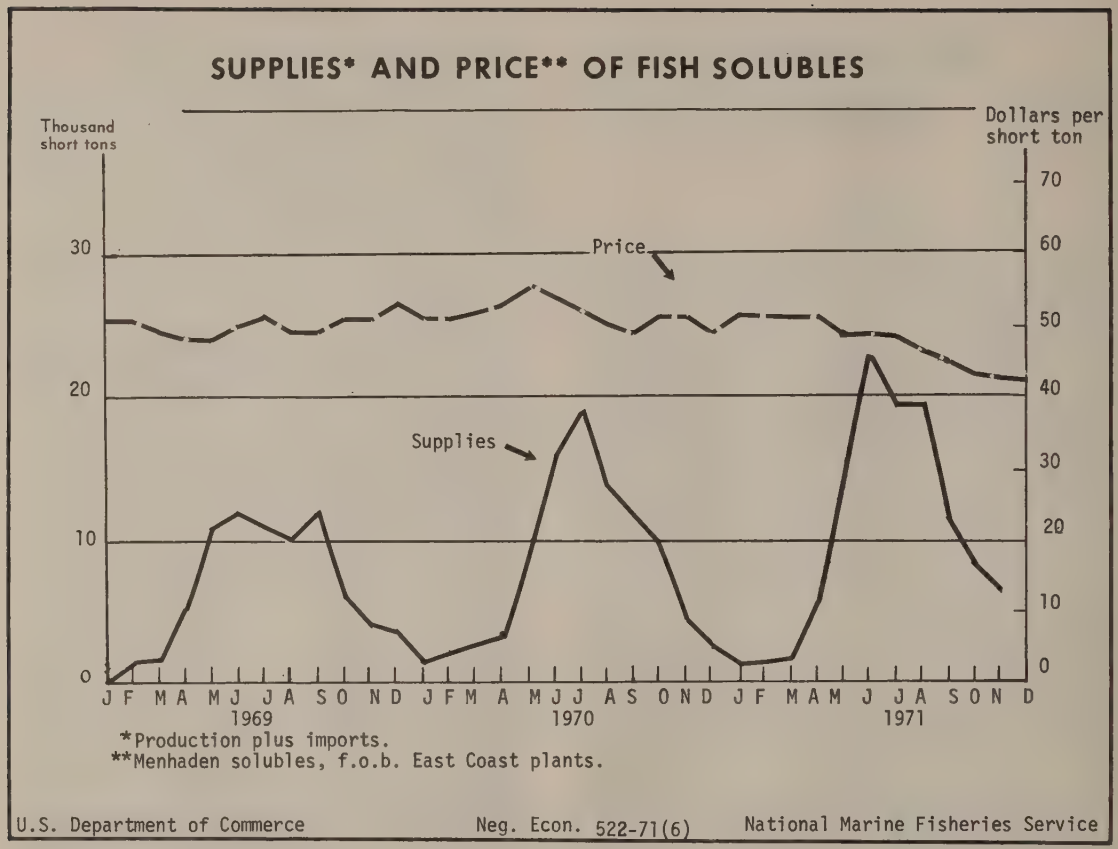

Figure 8

FISH OIL

REVIEW

Supply

Production of Fish Oil Record High

Fish oil production in the United States was 255.8 million pounds in the first 10 months of 1971--highest on record for the comparable period (tables 20 and 21). The increase was mainly caused by record high production of menhaden oil. About 80 percent of menhaden oil was produced in the Gulf Coast area.

Table 20.--U.S. production of fish oil 1/ by month, 1969-71

Month	1969	1970 2/	1971 2/
	Million pounds		
January	0.6	0.6	1.4
February	.6	.6	0.5
March	.6	.6	.5
April	6.1	3.0	9.5
May	20.8	21.8	27.3
June	28.0	39.9	54.8
July	30.0	40.9	55.3
August	26.7	41.1	58.5
September	28.9	27.4	30.4
October	13.8	19.4	16.8
November	8.5	7.3	6.0
December	5.0	3.0	
Total 3/	169.8	205.8	

1/ Includes a small amount of whale and sperm oil.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 21.--U.S. fish oil production by raw material source, January-October, 1966-70 average, 1970, and 1971

Source	1966-70 average	1970 1/	1971 1/	Percent of total U.S. production: 1966-70 average	1970	1971
	Million pounds			Percent		
Menhaden	133.0	180.5	239.9	88.6	92.3	93.8
Tuna, mackerel, and anchovy	5.0	6.1	6.4	3.3	3.1	2.5
Unclassified	12.2	8.9	9.4	8.1	4.6	3.7
Total 3/	150.1	195.5	255.8	100.0	100.0	100.0

1/ Preliminary.
2/ Figures may not add to total because of rounding.

FISH OIL

REVIEW

Supply

In November 1971, the domestic industry produced about 6 million pounds of fish oil--about 1.3 million pounds less than in November 1970. Menhaden oil production was up, however, 5.1 million pounds compared with 4.3 million pounds in November 1970.

Demand

U.S. Use of Fish Oil Down From a Year Ago

About 21.8 million pounds of fish oil were used in the United States in January-October for industrial purposes, mainly protective coatings--compared with 27.5 million pounds in the same period in 1970. The use of fish oil for industrial purposes has declined during the past 10 years because of the increased use of lower priced substitutes.

Exports of Fish Oil Record High

The United States exported 184.9 million pounds of fish oil in January-October 1971--48.9 million pounds more than a year ago and the

Table 22.--Industrial use of fish oil in the United States by month, 1969-71 1/

Month	1969	1970 2/	1971 2/
	Million pounds		
January	1.8	3.1	2.2
February	3.1	2.9	2.1
March	3.1	2.4	2.0
April	3.2	2.8	2.0
May	1.9	3.2	1.9
June	3.9	3.2	2.8
July	2.2	2.7	2.7
August	2.5	2.0	1.7
September	3.3	2.8	3.0
October	3.0	2.4	1.4
November	3.3	1.9	
December	2.8	2.0	
Total 3/	34.1	31.4	

1/ Includes marine mammal oil other than sperm oil and some hydrogenated fats (vegetable and animal) and other fats and oils in process.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 23.--U.S. exports of fish oil 1/ by month, 1969-71

Month	1969	1970	1971 2/
	Million pounds		
January	4.0	11.1	32.2
February	8.9	.4	4.9
March	19.8	13.9	.2
April	21.1	4.3	6.1
May	8.8	4.4	5.1
June	15.5	2.4	10.9
July	19.3	30.3	34.7
August	24.7	31.1	43.1
September	7.9	37.8	43.7
October	5.7	.2	4.4
November	33.3	17.9	21.6
December	27.0	4.9	
Total 3/	196.1	158.8	

1/ Excluding whale oil.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 24.--U.S. exports of fish oil by country of destination, January-October, 1966-70 average, 1970, and 1971

Country	1966-70 average	1970	1971 2/	Percent of total U.S. exports: 1966-70 average	1970	1971
	Million pounds			Percent		
Canada	1.1	1.0	0.9	1.2	0.7	0.5
Netherlands	38.0	49.8	76.2	41.0	36.6	41.2
Norway	9.5	36.0	-	10.3	26.5	-
Sweden	17.0	17.0	24.3	18.4	12.5	13.1
United Kingdom	8.4	14.7	28.2	9.1	10.8	15.2
West Germany	8.0	8.5	20.9	8.6	6.3	11.3
Other	10.6	9.0	34.5	11.4	6.6	18.7
Total 3/	92.5	136.0	184.9	100.0	100.0	100.0

1/ Excluding whale oil.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

highest amount recorded since 1963 (table 23). Most of the exports took place during the third quarter of the year. These high exports were in response to a recovery of consumption in Europe, mainly in the United Kingdom and in the Netherlands. The use of fish oil in margarine and shortening increased in these countries following a price decline of fish oils during the first half of the year.

About 76.2 million pounds of the United States exports of fish oil went to the Netherlands in the first 10 months of 1971--twice the 1966-70 average for the 10-month period (table 24). The United Kingdom received 28.2 million pounds of fish oil from the United States in January-October--more than three times the most recent 5-year average for such exports. About 24.3 million pounds went to Sweden and 20.9 million pounds to West Germany.

About 98 percent of the fish oil exported by the United States in January-October 1971 was menhaden.

Prices

Prices of Menhaden Oil Down

The average price of menhaden oil, as quoted by brokers at New

Table 25.—Average monthly price of menhaden oil 1/ f.o.b. East Coast plants, 1969-71

Month	1969	1970	1971
	Cents per pound		
January	4.70	8.75	10.40
February	5.00	2/9.25	10.30
March	5.20	3/8.90	10.20
April	5.30	3/9.70	9.65
May	5.25	3/10.30	8.95
June	5.20	10.30	8.05
July	5.25	10.40	8.60
August	5.65	10.20	9.25
September	6.10	9.70	9.15
October	6.75	9.75	8.85
November	8.20	10.10	8.90
December	8.50	10.60	8.50
Average 4/	5.75	10.15	

1/ Crude oil in tank cars; prices quoted by brokers at New York City.
2/ Asking price.
3/ F.o.b. Gulf Coast plants.
4/ Weighted average.

Table 26.--Average monthly price of tuna and mackerel oil 1/ at Los Angeles, 1969-71

Month	1969	1970	1971
	Cents per pound		
January	3.25	3.25	6.00
February	3.10	3.50	6.00
March	3.00	3.65	6.00
April	3.00	4.10	6.00
May	3.00	4.70	5.90
June	3.00	4.75	5.50
July	3.00	4.75	6.00
August	3.10	4.95	5.25
September	3.25	5.25	5.25
October	3.25	5.25	5.25
November	3.00	5.50	5.25
December	3.00	6.00	
Average 2/	3.10	4.95	

1/ Crude oil, f.o.b. plant; prices quoted by brokers at Los Angeles.
2/ Weighted average.

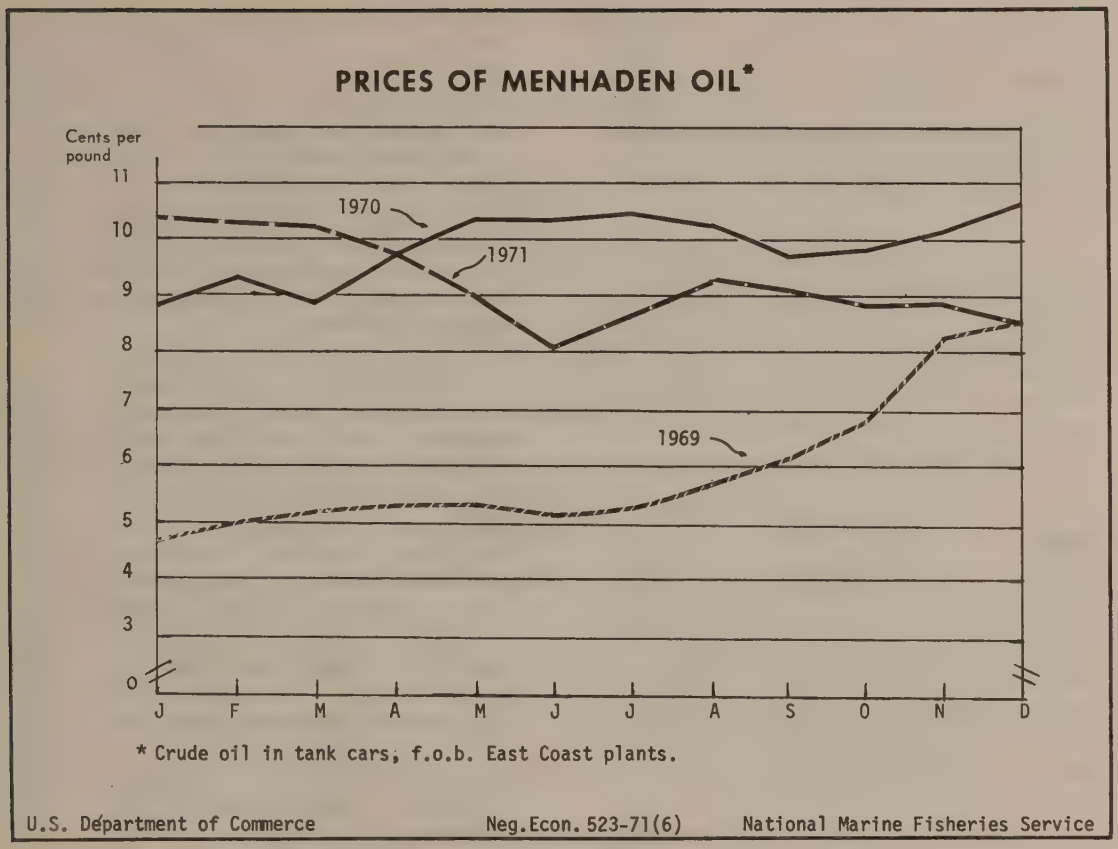

Figure 9

York City, declined significantly during 1971. Oil prices declined from an average of 10.40 cents per pound in January to 8.05 cents in June. Prices then responded to the increased demand in Europe during the third quarter of the year but declined again towards the end of the year. The December average price was 8.5 cents per pound (table 25 and fig. 9). The decline of menhaden oil prices was mainly due to high supplies of fish oil and palm oil in the world and high stocks of soybean oil in Europe.

OUTLOOK

Supply

U.S. production of fish oil in the first quarter is generally very low. The most recent 5-year average is 1.9 million pounds. Most of the oil produced during the first quarter comes from anchovies, tuna, and mackerel, because the menhaden fishing season does not begin until April. We expect the first quarter production in 1972 to be about 2 million pounds.

Demand

The United States used about 6.3 million pounds of fish oil for industrial purposes during the first quarter last year--a decrease of 2.1 million pounds from the previous year. A contributing factor to the decreased use was the exceptionally high price of fish oils. During the first quarter this year, prices will be more favorable to the domestic

user than a year ago. Expected lower supplies of linseed oil--an important competitor for fish oil in the United States--and, consequently, higher prices, support a possibility of higher domestic use of fish oil in 1972.

European consumption of fish oil is greatly dependent on its price in relation to the prices of competing oils; mainly prices of soybean oil. United States exports of fish oil also are influenced by the supply of fish oil from other countries, mainly Peru and Norway.

At the beginning of this year, demand for food oils in Europe appeared generally weak and was reflected in the increased stocks of soybean oil in the United States. Soybean oil prices also declined in the United States and in Western Europe. World markets for food oils were still somewhat bearish in mid-January, mainly because of lack of new soybean oil sales to India and Pakistan, and because of expectations of continuing high supplies. End of January estimates for a low U.S. soybean crop and for a low sunflower crop in the Soviet Union have created a firming tendency in the world markets for food oils. These factors suggest relatively good prospects for U.S. exports of fish oil during the first quarter of 1972.

Revaluation of the currencies of the Netherlands, Sweden, West Germany, and the United Kingdom has made United States fish oil cheaper to these major buyers or has increased returns from the exports to the United States sellers. Although currency realignment gives United States fish oil a competitive advantage over several foreign-produced vegetable oils, two major competitors, Peruvian anchovy oil and United States soybean oil, enjoy the same advantage. This moderates considerably the benefits of currency realignment to U.S. producers of fish oil.

LIST OF TABLES

Table		Page
1	Supplies, production, and imports of fish meal in the United States, by month, 1969-71.	5
2	U.S. production of fish meal by raw material source, January-October, 1966-70 average, 1970, and 1971	6
3	Production of menhaden meal by area and by month, 1961-71.	7
4	Menhaden landings by area, January-October, 1966-70 average, 1970, and 1971	7
5	U.S. imports of fish meal by country of origin, January-October, 1966-70 average, 1970, and 1971	10
6	Production of fish meal in eight major exporting countries, January-October, 1966-70 average, 1970, and 1971	11
7	Total FEO exports of fish meal	12
8	Exports of fish meal from FEO countries, Canada, and Denmark, January-October, 1966-70 average, 1970, and 1971	12
9	FEO fish meal stocks held November 1, 1966-70 average, 1970, and 1971	12
10	Stock-sales ratios in FEO countries, by month, 1970, and 1971	13
11	Broiler chick placements in 22 States, by month, 1969-71	13
12	Average monthly price of soybean meal at Decatur, Ill., 1969-71.	14
13	Ratio of Peruvian fish meal price to soybean meal price, by month, 1969-71	14
14	Average monthly price of menhaden meal, f.o.b. East Coast and Gulf points, 1969-71	15
15	Average monthly price of Peruvian fish meal, f.o.b. East Coast ports, 1969-71	16
16	Average monthly price of tuna and mackerel meal at Los Angeles, 1969-71	16
17	Prices of Peruvian fish meal in the United States and in Europe, by week, 1971.	16
18	Total fish solubles available in the United States: production plus imports, by month, 1969-71.	19
19	Average monthly price of menhaden solubles, f.o.b. East Coast plants, 1969-71.	19
20	U.S. production of fish oil, by month, 1969-71	20
21	U.S. fish oil production by raw material source, January-October, 1966-70 average, 1970, and 1971	21
22	Industrial use of fish oil in the United States, by month, 1969-71.	21
23	U.S. exports of fish oil, by month, 1969-71.	21
24	U.S. exports of fish oil by country of destination, January-October, 1966-70 average, 1970, and 1971	22
25	Average monthly price of menhaden oil, f.o.b. East Coast plants, 1969-71.	22
26	Average monthly price of tuna and mackerel oil at Los Angeles, 1969-71.	22

LIST OF FIGURES

Table		Page
1	Cumulative supplies of fish meal.	2
2	Locations and number of active menhaden reduction plants, 1971.	2
3	U.S. production of fish meal.	6
4	Monthly landings of menhaden.	8
5	U.S. imports of fish meal	9
6	U.S. imports of fish meal by country of origin.	10
7	Prices of fish meal	15
8	Supplies and price of fish solubles	20
9	Prices of menhaden oil.	23

Although the contents have not been copyrighted and may be printed freely, reference to source is appreciated. Suggested citation: National Marine Fisheries Service, Current Economic Analysis I-16, Industrial Fishery Products Situation and Outlook. Washington, D.C. 1972.

If not specifically stated, information in the tables is from the various data-collecting agencies of NMFS.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington, D.C. 20230

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS